ISSN (print) 0093-4666 © 2012. Mycotaxon, Ltd. ISSN (online) 2154-8889

MYCOTAXON

http://dx.doi.org/10.5248/121.333

Volume 121, pp. 333–343 *July–September 2012*

Studies on *Wrightoporia* from China 2. A new species and three new records from South China

Jia-jia Chen & Bao-Kai Cui*

Institute of Microbiology, P.O. Box 61, Beijing Forestry University, Beijing 100083, China
*Correspondence to: *baokaicui@yahoo.com.cn*

Abstract — During a taxonomic study on *Wrightoporia* from South China, four species new to China were collected: *W. cinnamomea*, *W. labyrinthina*, *W. ochrocrocea*, and a new species described as *W. biennis*. *Wrightoporia biennis* is characterized by a biennial growth habit, non- to weakly dextrinoid and distinctly narrow skeletal hyphae, abundant thick-walled gloeoplerous hyphae, presence of thin-walled cystidia, and asperulate basidiospores. Illustrations and descriptions of these species are provided based on the Chinese materials.

Key words — *Bondarzewiaceae*, polypore, taxonomy, wood-inhabiting fungi

Introduction

Wrightoporia Pouzar was established for the type species, *W. lenta* (Overh. & J. Lowe) Pouzar, by Pouzar (1966). The main characters for the genus are the resupinate to pileate basidiocarps, an annual to perennial growth habit, a monomitic to trimitic hyphal structure, and amyloid asperulate basidiospores (David & Rajchenberg 1987, Ryvarden 1982). Of the 40 species described or transferred to the genus worldwide (Hattori 2003, 2008; Ryvarden 2000), 15 have been recorded in China (Chen & Yu 2012; Cui & Dai 2006; Dai 2012; Dai & Cui 2006; Dai et al. 2011).

Wood-inhabiting fungi in southern China have been extensively studied, and many new polypores have been described recently (Cui & Dai 2011; Cui et al. 2009, 2010, 2011; Dai et al. 2010, 2011; Du & Cui 2009; Jia & Cui 2011; Li & Cui 2010). During taxonomic studies of polypores in southern China, one new species and three new Chinese records of *Wrightoporia* were identified from our collected samples. Their detailed descriptions and illustrations are given in this paper.

Materials & methods

Sections were studied microscopically according to Dai (2010) at magnifications ≤ 1000× using a Nikon Eclipse E 80i microscope with phase contrast illumination.

Drawings were made with the aid of a drawing tube. Microscopic features, measurements and drawings were made from slide preparations stained with Cotton Blue and Melzer's reagent. Spores were measured from sections cut from the tubes. To present spore size variation, the 5% of measurements excluded from each end of the range are given in parentheses. Basidiospore spine lengths are not included in the measurements. Abbreviations include IKI = Melzer's reagent, IKI– = negative in Melzer's reagent, KOH = 5% potassium hydroxide, CB = Cotton Blue, CB+ = cyanophilous, CB– = acyanophilous, L = mean spore length (arithmetic average of all spores), W = mean spore width (arithmetic average of all spores), Q = variation in the L/W ratios between the specimens studied, and n = number of spores measured from given number of specimens. Special color terms follow Petersen (1996). The studied specimens were deposited in herbaria as cited below.

Taxonomy

Wrightoporia biennis Jia J. Chen & B.K. Cui, **sp. nov.** Fig. 1

MycoBank MB 800915

Differs from other *Wrightoporia* species by a biennial growth habit, hard resupinate basidiocarps with tiny pores, non- to weakly dextrinoid distinctly narrow skeletal hyphae, abundant thick-walled gloeoplerous hyphae, and thin-walled cystidia.

Type — China, Yunnan Province, Xi-Shuang-Banna, Mengla County, Wangtianshu Park, on fallen angiosperm trunk, 2.XI.2009, Cui 8506 (**holotype**, BJFC).

Etymology — *biennis* (Lat.): referring to the biennial growth habit.

Fruitbody — Basidiocarps biennial, resupinate, inseparable, hard corky upon drying, ≤10.5 cm long, 7 cm wide, 4 mm thick at center. Pore surface buff-yellow to fawn-brown when dry; pores round to angular, 6–9 per mm; dissepiments thin to slightly thick-walled, entire. Sterile margin distinct, yellowish to brown, corky, ≤5 mm wide. Subiculum buff to cinnamon-brown, corky, ≤3 mm thick. Tubes concolorous with the pore surface, hard corky, ≤1 mm long.

Hyphal structure — Hyphal system dimitic; generative hyphae with clamp connections; skeletal hyphae CB–, weakly dextrinoid near the tube mouths, otherwise IKI–; tissues becoming dark brown in KOH. Abundant oily substance present in trama and subiculum.

Subiculum — Generative hyphae frequent, hyaline, thin- to slightly thick-walled, moderately branched, partly encrusted with yellowish, irregular crystals, 1–5 μm in diam; skeletal hyphae common, hyaline to light orange, thick-walled with a narrow lumen, rarely branched, flexuous, interwoven, rarely encrusted with hyaline to yellowish, irregular crystals, 2–3 μm in diam; gloeoplerous hyphae present, thick-walled with granular to oily contents appearing refractive in phase contrast, 4–8 μm in diam.

Tubes — Generative hyphae infrequent, thin- to slightly thick-walled, frequently branched, partly encrusted with hyaline to yellowish, irregular crystals, 1–2.5 μm in diam; skeletal hyphae dominant, hyaline to light orange,

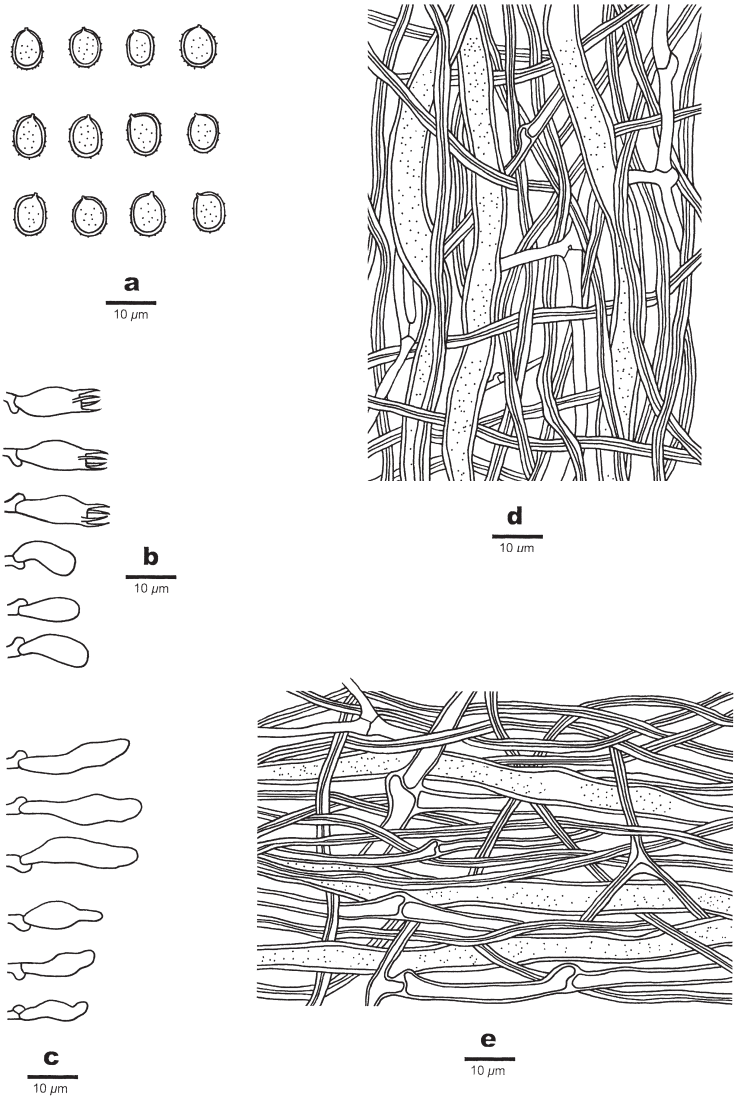

Fig. 1. *Wrightoporia biennis* (holotype), microscopic structures.
a: Basidiospores. b: Basidia and basidioles. c: Cystidia and cystidioles.
d: Hyphae from trama. e: Hyphae from subiculum.

thick-walled with a narrow lumen, rarely branched, flexuous, interwoven, sometimes encrusted with hyaline, irregular crystals, 1.5–3 μm in diam; gloeoplerous hyphae abundant, especially near the tube mouths, thick–walled

with granular to oily contents appearing refractive in phase contrast illumination, 5–9 μm in diam, embedded in the trama; cystidia clavate, hyaline, thin-walled, 20–25 × 4–6 μm, and fusoid cystidioles present, hyaline, thin-walled, 9–12 × 3–5 μm; basidia subclavate to barrel-shaped, bearing four sterigmata and a basal clamp connection, 12–17 × 5–7 μm; basidioles in shape similar to basidia, but slightly smaller.

Spores — Basidiospores subglobose to broadly ellipsoid, hyaline, thick-walled, finely asperulate, strongly amyloid, CB+, (3.2–)3.3–4(–4.1) × 2.6–3.5 (–3.6) μm, L = 3.64 μm, W = 3.06 μm, Q = 1.18–1.21 (n = 60/2).

Additional specimen examined — **China**. **Yunnan Province**, Xi-Shuang-Banna, Mengla County, Lvshilin Park, on fallen angiosperm trunk, 1.XI.2009, Cui 8457 (BJFC).

Remarks — *Wrightoporia biennis* resembles *W. micropora* Aime & Ryvarden (nom. illegit., non P.K. Buchanan & Ryvarden) by sharing resupinate basidiocarps, similar basidiospores (3–4 × 3 μm in *W. micropora*), but *W. biennis* differs in distinctly dextrinoid, wider (4–5 μm) skeletal hyphae and lacks both gloeoplerous hyphae and cystidia (Aime et al. 2007).

Wrightoporia neotropica Ryvarden may be confused with *W. biennis* by its resupinate basidiocarps and tiny pores (6–8 per mm in *W. neotropica*). However, *W. neotropica* has wider (4–6 μm) skeletal hyphae that are more or less parallel along the tubes, lacks both gloeoplerous hyphae and cystidia, and has subicular skeletal hyphae that are consistently even and without encrustations (Cui & Dai 2006, Ryvarden 2000).

Wrightoporia tropicalis (Cooke) Ryvarden also has hard basidiocarps and similar pores (6–8 per mm) and basidiospores (3–4 × 2–3 μm), but differs from *W. biennis* in wider (3–5 μm) skeletal hyphae that are partly inflated and thick-walled cystidia (Ryvarden & Johansen 1980).

Wrightoporia labyrinthina also has non- to weakly dextrinoid skeletal hyphae and abundant gloeoplerous hyphae. However, it is distinguished from *W. biennis* mainly by an annual growth habit, larger and irregular pores (1–2 per mm in the holotype), and lack of cystidia (Hattori 2008).

Wrightoporia cinnamomea Ryvarden, Nordic Journal of Botany, 2: 146, 1982 Fig. 2

Fruitbody — Basidiocarps annual, resupinate, soft when fresh, becoming tough upon drying; about 8 cm long, 6 cm wide, and 3 mm thick at centre; margin rhizomorphic, vinaceous brown. Pore surface cream to pale cinnamon; pores round to angular, 6–8 per mm; dissepiments thin, entire to lacerate. Subiculum buff to cinnamon-buff, soft cottony, ≤1 mm thick. Tubes concolorous with the pore surface, fibrous-tough, ≤2mm long.

Hyphal structure — Hyphal system dimitic; generative hyphae bearing clamp connections; skeletal hyphae CB–, IKI–; skeletal hyphae in the trama partly inflated in KOH, ≤7 μm wide, otherwise unchanged in KOH.

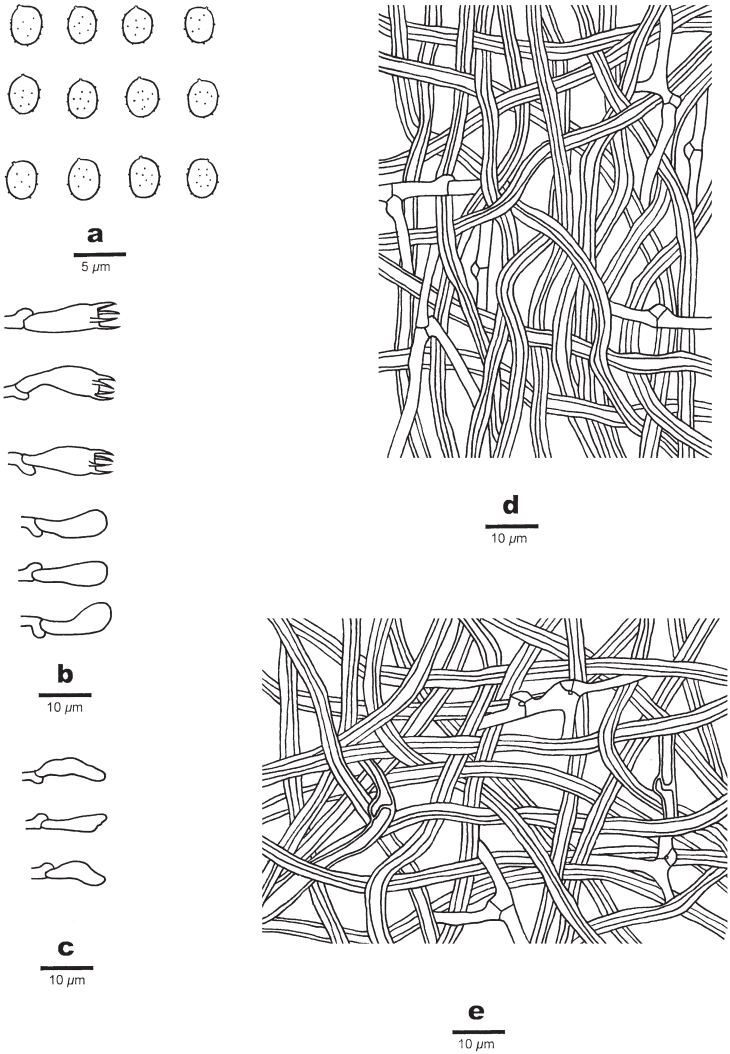

Fig. 2. *Wrightoporia cinnamomea* (Yuan 2201), microscopic structures.
a: Basidiospores. b: Basidia and basidioles. c: Cystidioles.
d: Hyphae from trama. e: Hyphae from subiculum.

Subiculum — Generative hyphae hyaline, thin-walled, frequently branched, 2–3 μm in diam; skeletal hyphae dominant, yellowish to brownish orange, thick-walled with a wide to narrow lumen, straight to flexuous, interwoven, sometimes encrusted with yellowish, irregular crystals, 2–5 μm in diam.

Tubes — Generative hyphae hyaline, thin- to slightly thick-walled, frequently branched, 2–3 μm in diam; skeletal hyphae dominant, hyaline to yellowish, thick-walled with a wide to narrow lumen, unbranched, straight to flexuous, interwoven, sometimes encrusted with yellowish, irregular crystals, 2–5 μm in diam; cystidia absent, but fusoid cystidioles present; basidia clavate, thin-walled, with four sterigmata and a basal clamp connection, 12–20 × 5–6 μm; basidioles in shape similar to basidia, but slightly smaller.

Spores — Basidiospores subglobose, hyaline, thin-walled, finely asperulate, strongly amyloid, CB–, 3–3.8 × 2.6–3 μm, L = 3.28 μm, W = 2.82 μm, Q = 1.16 (n = 30/1).

Specimens examined — **CHINA. Yunnan Province**, Lijiang, Yunshanping, on fallen trunk of *Abies*, 4.IX.2006, Yuan 2201 (IFP). **JAPAN. Chiba Prefecture**, Tokyo University Forest, Kiyosumi Forest Station, 24.VIII.1983, Ryvarden 21033 (O).

Remarks — *Wrightoporia cinnamomea* is easily identified by its cream to pale cinnamon pores, rhizomorphic basidiocarps, and non-dextrinoid skeletal hyphae. It is related to *W. africana* I. Johans. & Ryvarden, which also produces resupinate basidiocarps and similar (3–3.5 × 2.5–3 μm) basidiospores but which differs in slightly larger pores (5–6 per mm) and dextrinoid skeletal hyphae (Johansen & Ryvarden 1979; Ryvarden 1982).

Wrightoporia labyrinthina T. Hatt., Mycoscience 49: 59, 2008 Fig. 3

Fruitbody — Basidiocarps annual, resupinate to effused-reflexed, corky upon drying; about 4.8 cm long, 3 cm wide, and 2.5 mm thick at centre. Sterile margin distinct, pale orange, membranous, ≤2.5 mm wide. Pore surface pale orange to greyish brown; pores angular to sinuous, elongated to daedaleoid, 1–2(–3) per mm; dissepiments thin, entire to partly lacerate. Subiculum brownish orange, membranous, ≤0.5 mm thick. Tubes concolorous with pore surface, leathery, ≤2 mm long.

Hyphal structure — Hyphal system dimitic; generative hyphae with clamp connections; skeletal hyphae CB–, weakly dextrinoid or IKI–; tissues becoming dark brown in KOH.

Subiculum — Generative hyphae hyaline, thin-walled, moderately branched, 2–3 μm in diam; skeletal hyphae dominant, yellowish to orange, thick-walled with a wide to narrow lumen, unbranched, more or less flexuous, interwoven, 2–5.5 μm in diam; gloeoplerous hyphae present, ≤9 μm in diam.

Tubes — Generative hyphae hyaline, thin- to slightly thick-walled, occasionally branched, 1.5–2.5 μm in diam; skeletal hyphae dominant, yellowish to orange, thick-walled with a wide to narrow lumen, unbranched, flexuous, interwoven, 2–4.5 μm in diam; gloeoplerous hyphae present, unbranched, hyaline, ≤9 μm in diam. Cystidia absent, fusoid cystidioles present; basidia subclavate, bearing four sterigmata and a basal clamp connection, 12–15 ×

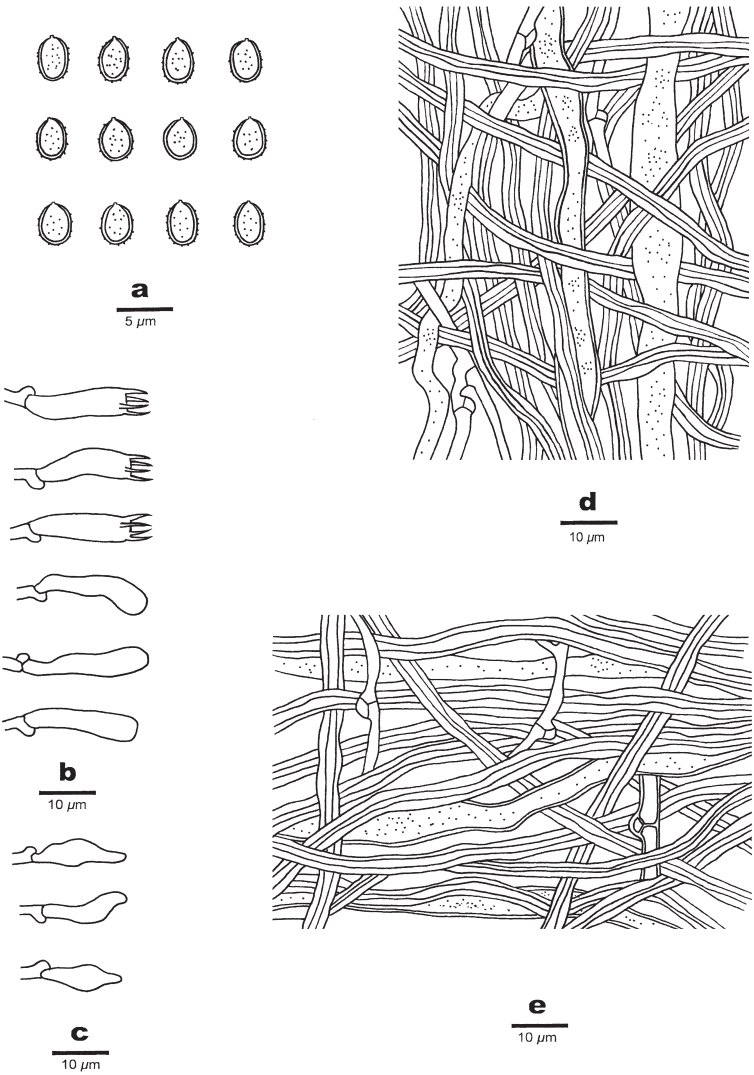

Fig. 3. *Wrightoporia labyrinthina* (Yuan 1475), microscopic structures.
a: Basidiospores. b: Basidia and basidioles. c: Cystidioles.
d: Hyphae from trama. e: Hyphae from subiculum.

3–3.5 μm; basidioles in shape similar to basidia, but slightly smaller.

Spores — Basidiospores ellipsoid to broadly ellipsoid, hyaline, slightly thick-walled, echinulate, amyloid, CB–, 3.6–4 × (2.7–)2.8–3 μm, L = 3.89 μm, W = 2.93 μm, Q = 1.33 (n = 30/1).

Specimens examined — **CHINA**. **Yunnan Province**, Xishuangbanna, Mangao Nature Reserve, on fallen angiosperm branch, 11.VIII.2005, Yuan 1475 (IFP). **JAPAN**. **Ibaraki Prefecture**, Kitaibaraki, Ogawa, on twig of hardwood, 30.IX.2003, F-20724 (holotype, TFM).

Remarks — *Wrightoporia labyrinthina* resembles *W. gyropora* (Corner) Stalpers in large, irregular pores but is distinguished by the leathery tough tubes and the presence of gloeoplerous hyphae. It is also similar to *W. pouzarii* A. David & Rajchenb. in the large pores, but *W. pouzarii* has pileate basidiocarps and lacks gloeoplerous hyphae (David & Rajchenberg 1987; Hattori 2003, 2008; Ryvarden 1975).

Wrightoporia ochrocrocea (Henn. & E. Nyman) A. David & Rajchenb., Canadian Journal of Botany, 65: 208, 1987 Fig. 4

≡ *Polyporus ochrocroceus* Henn. & E. Nyman, Monsunia 1: 145, 1899 ["1900"]

Fruitbody — Basidiocarps annual, effused-reflexed or pileate, hard corky upon drying; pileus broadly attached, semicircular to elongated, projecting ≤1 cm long, 2 cm wide, 3 mm thick at base. Pileal surface buff to slightly dark yellow-brown, azonate, not sulcate; margin obtuse. Pore surface straw-yellow to clay-buff; pores angular, 8–10 per mm; dissepiments thin, entire. Context darker than tubes, chrome-yellow to yellow-brown, soft cottony and easily compressed, ≤2 mm thick. Tubes concolorous with pore surface, fibrous-tough, ≤1 mm thick.

Hyphal structure — Hyphal system monomitic in the context, dimitic in the trama; generative hyphae bearing clamp connections; skeletal hyphae CB+, dextrinoid near the tube mouths, otherwise IKI–; tissues becoming dark brown in KOH.

Context — Generative hyphae hyaline to yellow, slightly thick-walled to thick-walled with a wide lumen, moderately branched, frequently encrusted with hyaline to yellowish, irregular crystals, 2–4 μm in diam.

Tubes — Generative hyphae hyaline to yellowish, thin- to slightly thick-walled, occasionally branched, occasionally encrusted with yellowish, irregular crystals, 1.8–4.5 μm in diam; skeletal hyphae dominant, yellowish to yellow, thick-walled with a wide to narrow lumen, unbranched, interwoven, 2–5 μm in diam. Cystidia and cystidioles absent; basidia subclavate to barrel-shaped, bearing four sterigmata and a basal clamp connection, 12–16 × 4–6 μm; basidioles in shape similar to basidia, but slightly smaller.

Spores — Basidiospores broadly ellipsoid, hyaline, slightly thick-walled, finely asperulate, amyloid, weakly CB+, (2.2–)2.3–3.1(–3.2) × (1.8–)1.9–2.3(–2.4) μm, L = 2.86 μm, W = 2.08 μm, Q = 1.38 (n = 30/1).

Specimens examined — **CHINA**. **Guangdong Province**, Heyuan, Daguishan Forest Park, on fallen angiosperm branch, 18.VIII.2011, Cui 10129 (BJFC). **THAILAND**. **Issan District**, Khao Yai National Park, near the fall, along the river, 11.VIII.1997, Núñez 1997 (O). **NEW GUINEA**. **Morobe District**, Bulolo, 5.XII.1967, leg. P. Wright (O).

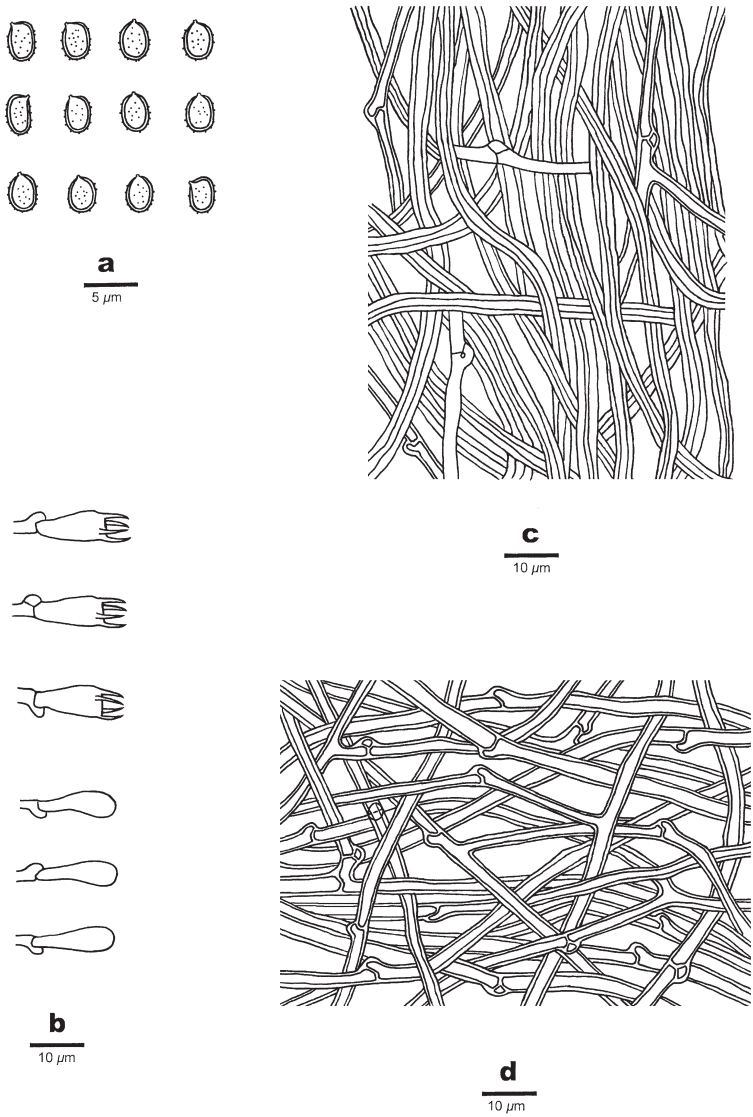

Fig. 4. *Wrightoporia ochrocrocea* (Cui 10129), microscopic structures.
a: Basidiospores. b: Basidia and basidioles. c: Hyphae from trama. d: Hyphae from context.

Remarks — *Wrightoporia ochrocrocea* is characterized by a dimitic trama and monomitic context and hyphae that are non- or slightly dextrinoid. *Wrightoporia trametoides* (Corner) Stalpers also produces hard corky basidiocarps and a

dimitic trama and monomitic context but differs from *W. ochrocrocea* in larger (3.5–4 × 2–2.5 μm) basidiospores (Ryvarden & Johansen 1980; Corner 1989; Hattori 2003).

Other specimens examined — ***Wrightoporia africana***. **CAMEROON**. **Campo Province**, Akok Lowland Rain Forest Reserve, 2.XII.1991, Ryvarden 30558 (O). **UGANDA**. **Kanungu District**, Bwindi Impenetrable Forest National Park, 5.VI.2003, Ipulet F1965 (O).
— ***W. gyropora***. **BRUNEI**. **Borneo**, Andulai Forest, 22.II.1959, on stump of old tree in the forest, leg. E.J.H. Corner (holotype, E).
— ***W. micropora***. **GUYANA**. Pakaraima Mountains, Upper Potaro River, 20 km east of Mt. Ayanganna, near confluence of Potaro River and Alukyadongbaru Creek, Paluway plot 3 in *Dicymbe corymbosa*-dominated forest, on underside of hardwood log, 18.V.2001, Aime 1521 (BRG, holotype, O).
— ***W. neotropica***. **DOMINICAN REPUBLIC**. **La Vega province**, Casabito, El Arroyazo, 29.V.1997, Ryvarden 40228 (O).
— ***W. pouzarii***. **UGANDA**. **Kabale District**, Bwindi Forest National Park, Ruhija, in Mature mixed Forest, on fallen rotting branches, 2.VI.2003, Ipulet 1883 (O). **ZAMBIA**. Chowo Forest, Nyika Plateau, 27.I.1983, J. Selander 736/7 (O).
— ***W. trametoides***. **MALAYSIA**. **Johore**, Sedili River, 22.V.1940, leg. E.J.H. Corner (holotype, E).
— ***W. tropicalis***. **BELIZE**. **Orange Walk district**, La Milpa Field Station, 24.X.2002, Ryvarden 45184 (O). **Cayo District**, Guacamayo Bridge, Mecal River, 1.XI.2002, Ryvarden 45363 (O). **CHINA**. **Hainan Province**, Lingshui County, Diaoluoshan Reserve, on root wood of *Dacrydium*, 23.XI.2002, Dai 4490 (BJFC).

Acknowledgements

Special thanks are due to Prof. Leif Ryvarden (O. Norway), Drs Bernard Rivoire (LY, France), and Pertti Salo (H, Finland) for specimen loans. We express our gratitude to Drs. Tatiana B. Gibertoni (Brasil) and Yu-Cheng Dai (China) who reviewed the manuscript. We also thank Dr. Hai-Sheng Yuan (IFP, China) for help in field collection. The research was financed by the Program for New Century Excellent Talents in University (NCET-11-0585) and National Natural Science Foundation of China (Project No. 31093440).

Literature cited

Aime MC, Ryvarden L, Henkel TW. 2007. Studies in neotropical polypores 22. Additional new and rare species from Guyana. Synopsis Fungorum 23: 15-31.

Chen JJ, Yu HY. 2012. Studies on the genus of *Wrightoporia* from China 1. A new species described from Hunan Province, South China. Mycotaxon 120: 295–300. http://dx.doi.org/10.5248/120.295

Corner EJH. 1989. Ad polyporaceas V. Beih Nova Hedwigia 96: 1-218.

Cui BK, Dai YC. 2006. *Wrightoporia* (*Basidiomycota*, *Aphyllophorales*) in China. Nova Hedwigia 83: 159-166. http://dx.doi.org/10.1127/0029-5035/2006/0083-0159

Cui BK, Dai YC. 2011. A new species of *Pyrofomes* (*Basidiomycota*, *Polyporaceae*) from China. Nova Hedwigia 93: 437-441. http://dx.doi.org/10.1127/0029-5035/2011/0093-0437

Cui BK, Dai YC, Bao HY. 2009. Wood-inhabiting fungi in southern China 3. A new species of *Phellinus* (*Hymenochaetales*) from tropical China. Mycotaxon 110: 125-130. http://dx.doi.org/10.5248/110.125

Cui BK, Dai YC, Yuan HS. 2010. Two new species of *Phylloporia* (*Basidiomycota*, *Hymenochaetaceae*) from China. Mycotaxon 113: 171-178. http://dx.doi.org/10.5248/113.171

Cui BK, Du P, Dai YC. 2011. Three new species of *Inonotus* (*Basidiomycota*, *Hymenochaetaceae*) from China. Mycological Progress 10: 107-114. http://dx.doi.org/10.1007/s11557-010-0681-6

Dai YC. 2010. *Hymenochaetaceae* (*Basidiomycota*) in China. Fungal Diversity 45: 31-343. http://dx.doi.org/10.1007/s13225-010-0066-9

Dai YC. 2012. Polypore diversity in China with an annotated checklist of Chinese polypores. Mycoscience 53: 49-80. http://dx.doi.org/10.1007/s10267-011-0134-3

Dai YC, Cui BK. 2006. Two new species of *Wrightoporia* (*Basidiomycota*, *Aphyllophorales*) from southern China. Mycotaxon 96: 199-206.

Dai YC, Cui BK, Liu XY. 2010. *Bondarzewia podocarpi*, a new and remarkable polypore from tropical China. Mycologia 102: 881-886. http://dx.doi.org/10.3852/09-050

Dai YC, Cui BK, Yuan HS, He SH, Wei YL, Qin WM, Zhou LW, Li HJ. 2011. Wood-inhabiting fungi in southern China. 4. Polypores from Hainan Province, Annales Botanici Fennici 48: 219-231.

David A, Rajchenberg M. 1987. A reevaluation of *Wrightoporia* and *Amylonotus* (*Aphyllophorales*, *Polyporaceae*). Canadian Journal of Botany 65: 202-209. http://dx.doi.org/10.1139/b87-027

Du P, Cui BK. 2009. Two new species of *Megasporoporia* (*Polyporales*, *Basidiomycota*) from tropical China. Mycotaxon 110: 131-138. http://dx.doi.org/10.5248/110.131

Hattori T. 2003. Type studies of the polypores described by E.J.H Corner from Asia and West Pacific Areas. VI. Species described in *Tyromyces* (3), *Cristelloporia*, *Grifola*, *Hapalopilus*, *Heterobasidion*, *Ischnoderma*, *Loweporus*, and *Steccherícium*. Mycoscience 44: 453-463. http://dx.doi.org/10.1007/s10267-003-0139-7

Hattori T. 2008. *Wrightoporia* (*Basidiomycota*, *Hericiales*) species and their allies collected in Japan. Mycoscience 49: 56-65. http://dx.doi.org/10.1007/s10267-007-0389-x

Jia BS, Cui BK. 2011. Notes on *Ceriporia* (*Basidiomycota*, *Polyporales*) in China. Mycotaxon 116: 457-468. http://dx.doi.org/10.5248/116.457

Johansen I, Ryvarden L. 1979. Studies in the *Aphyllophorales* of Africa. 7. Some new genera and species in the *Polyporaceae*. Transactions of the British Mycological Society 72: 189-199. http://dx.doi.org/10.1016/S0007-1536(79)80031-5

Li HJ, Cui BK. 2010. A new *Trametes* species from Southwest China. Mycotaxon 113: 263-267. http://dx.doi.org/10.5248/113.263

Petersen JH. 1996. The Danish Mycological Society's colour-chart. Foreningen til Svampekundskabens Fremme, Greve. 6

Pouzar Z. 1966. Studies in the taxonomy of the polypores 1. Česká Mykologie 20: 171-177.

Ryvarden L. 1975. Studies in the *Aphyllophorales* of Africa. 2. Some new species from East Africa. Nordic Journal of Botany 22: 25-34.

Ryvarden L. 1982. Synopsis of the genus *Wrightoporia*. Nordic Journal of Botany 2: 145-149. http://dx.doi.org/10.1111/j.1756-1051.1982.tb01174.x

Ryvarden L. 2000. Studies in neotropical polypores 7. *Wrightoporia* (*Hericiaceae*, *Basidiomycetes*) in tropical America. Karstenia 40: 153-158.

Ryvarden L, Johansen I. 1980. A preliminary polypore flora of East Africa. Oslo, Fungiflora.